

A HANDBOOK ON



SPRAWL AND SMART GROWTH CHOICES FOR SOUTHERN NEW HAMPSHIRE COMMUNITIES

**Prepared by the
Southern New Hampshire
Planning Commission**



A Handbook on
Sprawl and Smart Growth Choices
for
Southern New Hampshire Communities

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Cover photos counterclockwise:

First four photos, Town of Derry, NH, participating in the State of New Hampshire GrowSmart Program. Fifth photo (lower right) an urban park in Portsmouth, NH. Photos by Chuck Lawton, Planning Decisions Inc.

Preface

This Handbook on *Sprawl and Smart Growth Choices for Southern New Hampshire Communities* was prepared for the towns of Auburn, Bedford, Candia, Chester, Deerfield, Derry, Goffstown, Hooksett, Londonderry, New Boston, Raymond, Weare, and the City of Manchester by the Southern New Hampshire Planning Commission (SNHPC), with funding from the New Hampshire Office of State Planning under the Targeted Block Grant Program.

The purpose of the Handbook is to assist these communities to “plan smart” by reviewing a number of Smart Growth concepts for southern New Hampshire, while looking at planning regulations currently in use by a number of our communities.

The pattern of land development that has led to sprawl has been around for many years. During the 1950’s, baby boomers’ parents were beginning to move from city and town centers to suburbia. This living choice, along with construction of the interstate highway system and the rapid growth of the automotive industry, resulted in development patterns that would consume far more land than was really necessary.

Sustainable, or “Smart Growth,” allows communities to continue to grow at their own rate while consuming less land and providing for open spaces that all residents may enjoy. Smart Growth encourages more mixed-use and compact development, allowing a person to actually *walk* to work or *walk* to buy a gallon of milk instead of hopping in the car, polluting the atmosphere, and losing out on the health benefits and enjoyment of walking. In fact, there is now a definition for ‘Smart Growth’ in the contemporary lexicon meaning “*sensible growth: economic growth that consciously seeks to avoid wastefulness and damage to the environment and communities.*”¹

This Handbook should help our communities consider how important smart planning is for our future, and for generations to come. Open space is something we all enjoy, and once it is gone, the benefits of its use by the general public are lost. Let’s plan our communities with the hope that our grandchildren will say, “Now that was *smart* planning!”

¹ Definition contained within Microsoft Encarta World English Dictionary (North American Edition) 2002.

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**“We do not inherit the earth from our ancestors,
we borrow it from our children.”**

Anonymous

I. INTRODUCTION

Sprawl: A Concern for All of Us

Sprawl has become a way of life for most Americans during the past 50 years. Many adults today still remember that they could walk to school or to the neighborhood store. Today, only 13 percent of students walk or bike to school.² For the most part, the “corner store” is just a fond memory.

What has happened to America as we knew her almost 50 years ago? With the exception of some of the larger cities, this country has been transformed from an essentially walkable nation to one in which an automobile is required to get almost anywhere. The effects this has had on our health, farmland, water resources, air quality, land consumption, and pocketbook must be considered so that we can begin to reverse this trend and bring back some healthier living options to our communities.

This *Handbook on Sprawl and Smart Growth Choices for Southern New Hampshire Communities* will look at some of the problems that exist today due to our sprawling development patterns, and what we can do as communities to grow in a *smarter* way in the future.

Good Vs. Poor Access

The *Community Builder's Handbook*, originally published in 1947 by the Urban Land Institute, was reprinted in the year 2000 as a commemorative edition. It discusses the selection of a subdivision site and, under the heading “Accessibility and Transportation,” states:

*“Walking distances [are considered] good when the site [where one lives] is within walking distance of places of employment [and] poor when the site lacks public transit and is over one mile walking distance from places of employment. ...except in the highest priced developments, **complete reliance on the private automobile for transportation to and from places of employment and shopping is not advisable** [emphasis added]. ”*

Almost all residential development that has taken place during the past 40 years would be considered “poor” for accessibility and transportation. This is because we have become a nation almost completely dependent upon the automobile for our transportation needs.

² “Historic Neighborhood Schools In the Age of Sprawl: Why Johnny Can’t Walk to School.” Constance E. Beaumont, National Trust for Historic Preservation, November 2000.

So What Exactly is Sprawl?

According to the U.S. Census Bureau, from 1950 to 2000 New Hampshire's population grew from 533,000 to 1,236,000, an increase of over 132%. Meanwhile, the population of the Southern New Hampshire Planning Commission's thirteen communities grew from 108,000 to 249,000, or approximately 131%, closely paralleling the State's growth. However, a much higher percentage of *land* has been converted from open space to residential use across the state. This is especially true in southern New Hampshire. For example, between 1986 and 2000, *residential land use acreage consumed* in Hooksett increased by 102%, from 1,650 acres in 1986 to 3,329 acres during 2000. However, the population increase during this same period was only 36%, growing from 8,650 in 1986 to 11,721 in 2000³.

What does all this mean? In Hooksett, residential land was consumed at a rate approximately *three times* that of population growth during this fourteen-year period. In contrast, Portland, Oregon, which grew in population by 50% since the 1970's, used a mere *two percent* of additional land for this purpose⁴.

Sprawl consumes land at a rate that is not sustainable in this country, including southern New Hampshire. Sprawl has caused the loss of thousands of acres of trees and open space in our state, with the construction of new homes, businesses, roads, and sidewalks. Advances in infrastructure (we spend billions annually in the U.S. on roads) and other areas have enabled us to live in more remote locations each year. We need to reverse this trend in order to re-establish a more sensible and less costly approach to where we live, work, shop, and play, and to conserve some open space for our grandchildren to enjoy.

Zoning and Subdivision Regulations

Randall Arendt, a senior conservation adviser for the Natural Lands Trust, and a noted writer and speaker on the causes of and solutions for sprawl, stated that officials need look no further than their own zoning laws as the stimulus for urban sprawl and unsightly development. "Most zoning ordinances are written to do nothing but promote development. But those ordinances can be designed and written with conservation in mind."

Communities within southern New Hampshire are no exception to this statement. During the past 20 years houses have been built on large, 1-5 acre lots. Businesses have been encouraged to sprawl along our road system, causing many traffic problems that will now cost many dollars to fix. However, a number of communities are beginning to plan with a *desirable* future in mind. Some are developing open space plans, while others are reviewing land use/transportation links to find out if they can make their communities more walkable and user-friendly.

³ US Census Bureau, 2000.

⁴ "Once There Were Greenfields," Natural Resource Defense Council and Surface Transportation Policy Project, 1999.

It is hoped that this document will enable communities to take a closer look at their own zoning and subdivision ordinances to discover if they are working for sustainable development within their community. Several case studies are featured in Section III of this document, which may help communities consider changes in their own ordinances. Communities are advised to take a look at their master plans to see if the foundation has been laid for Smart Growth.

Urban Sprawl and the Automobile

There has been a dramatic rise in the use of the automobile during the past 50 years, well beyond that due to population increases. According to the latest figures published in the Federal Highway Administration report *Highway Statistics*, total vehicle miles of travel in the United States increased by 59% from 1980 to 1995.

Despite considerable progress, the overall goal of clean air continues to elude much of the country. Here in southern New Hampshire, we love our automobiles as much as anyone else does in the U.S. By implementing Smart Growth policies, dependence on the automobile could be reduced considerably.

Impacts of Sprawl on Rural Areas

Have you ever noticed that the best place to “grow” homes in a sprawling fashion is usually on our best farmland? “The best farmland is flat, well-drained, has few trees, basically what the developers ordered.”⁵

Sprawl drains jobs, people and infrastructure out of the urban center and moves them into the small towns and farms of the rural United States. American Farmland Trust estimates that nearly 50 acres of the country’s prime farmland are being lost every hour of every day, primarily due to “scattered and fragmented urban development near major metropolitan areas.”

Sprawl is also linked to deteriorating water quality in what once were rural areas. Stormwater runoff from roads and parking lots contains a wide variety of additional pollutants including oils, road salts, nutrients and sediments, as well as hazardous and solid wastes. In addition, urban runoff still constitutes a major source of pollutants to surface water bodies.

We all know the effect sprawl has had on the landscape of southern New Hampshire. However, its visual effects have become more noticeable during the past 20-30 years in this region. Smart Growth will enable us to enjoy our existing open space while protecting many of our other natural resources.

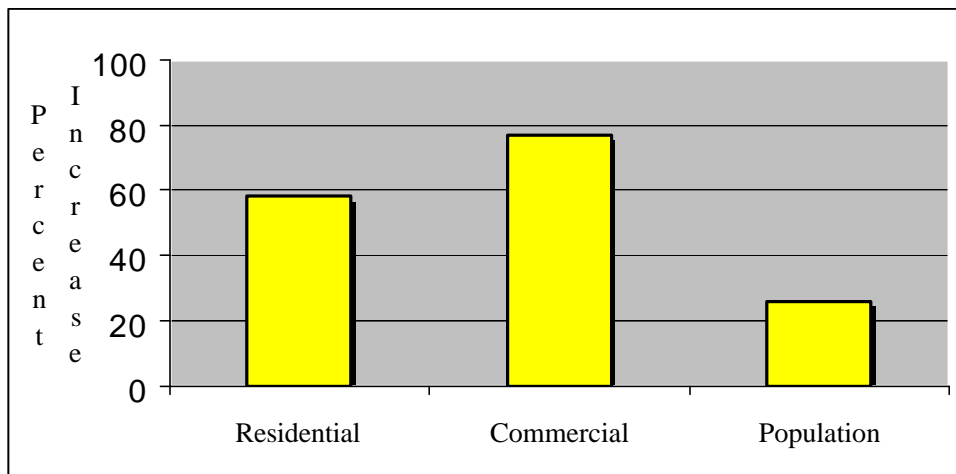
⁵ Ann Sorenson, Director of the American Farmland Trust (AFT) Center for Agriculture and Environment.

Sprawl in Southern New Hampshire: Residential and Commercial Land Consumption

The Southern New Hampshire Planning Commission's area population has increased from 171,978 during 1980 to 248,838 in 2000. Some of the towns in this area have grown over 100% during this period. For example, residential land use acreage consumed in Hooksett increased by 102%, from 1,650 acres in 1986 to 3,329 acres during 2000, but population increase during this same period was *only* 36%. In New Hampshire, between 1982 and 1992, the population increased 17% while the developed land area increased 45%.⁶ This means that people have been using *more land* to build their homes in New Hampshire.

The following chart shows how consumption of residential and commercial land compared with population increases from 1986 to 2000 for jurisdictions within the SNHPC area:⁷

Land Consumption versus Population Increase, 1986-2000



Acres Consumed versus Population Increase, 1986-2000:

	Residential	Commercial
	Acres	Acres
1986	43,275	2,290
2000	68,388	4,052
Percentage Increase 1986-2000:	58%	76.8%

Population Increase:

1986:	198,075
2000:	248,838
Percent Increase:	25.6%

⁶ Sundquist, Dan, and Michael Steven. New Hampshire's Changing Landscape: Population Growth, Land Use Conversion, and Resource Fragmentation in the Granite State. Society for Protection of NH Forests and NH Chapter of The Nature Conservancy, Concord NH, 1999.

⁷ Land Use Update 2001 for the Southern New Hampshire Planning Commission Region, 13 communities, May 2002.

As shown in the preceding chart, data from southern New Hampshire communities indicates that *much more land is being consumed for residential and commercial uses than is necessary for population growth*. From 1986 to 2000, residential acreage was consumed at *twice* the population growth rate, and commercial acreage was consumed at *three times* the population growth rate.

In 1982, New Hampshire had 0.41 developed acres per person and, by 1997, that figure had increased to 0.55 developed acres per person. These figures are higher than those for New England as well as those for the United States as a whole.⁸

Many communities required larger lots in their zoning ordinances for single family homes than were really necessary. They felt that, if larger lots were required, fewer homes would be built, which would decrease sprawl and its accompanying traffic problems. But this was not so. Large lot zoning resulted in the development of tracts of land that would never again be useful for open space or other common public areas.

State Legislation Encourages Smart Growth

In 1994, the New Hampshire legislature adopted Innovative Land Use Controls, RSA 674:21, which enabled communities to grow smarter by incorporating these measures in their zoning ordinances. These land use controls may include, but are not limited to, ways to grow smarter, such as cluster and planned unit development, transfer of development rights, performance standards, environmental characteristics zoning, and impact fees. While these controls go a long way toward growing smarter, there are still a number of other growth regulations that are not used widely in southern New Hampshire, but have had success in other parts of the nation. For instance, the states of Washington and Oregon, among others, utilize Urban Growth Boundaries to limit the extent of growth, while ensuring that new developments are properly served with the full range of urban services at an economical cost to the municipality.

In the *Report to Governor Shaheen on Sprawl* from the New Hampshire Office of State Planning, December 1999, five points were made on the need to address sprawl in this state:

- ❑ *Sprawl is expensive.*
- ❑ *Sprawl makes New Hampshire less attractive to business.*
- ❑ *Sprawl makes us less attractive to visitors.*
- ❑ *New Hampshire's forest and agricultural land produces income and provides jobs while maintaining open space.*
- ❑ *What we have now is of value to our citizens and is worth preserving.*

In *Options for an Urban Development Policy: An Action Agenda for New Hampshire*, it was stated:

“New Hampshire is a state in transition. It has undergone extensive change in the last thirty years, mostly as a result of rapid population and economic growth. The very qualities that attracted some of the 200,000 people in the last decade alone are in danger of being lost because of rapid growth. [This rapid growth has]...spurred demand

⁸ State of New Hampshire – Environment 2000.

for increased services which in turn has raised property taxes, generated land use regulations that are more strict and sophisticated in an attempt to slow growth, stimulated land and building prices dramatically, consumed open land that is considered a prized asset of the state and diminished the available labor supply.”

The above statement was written during 1980. We are facing challenges today in New Hampshire that are similar to those that existed over a generation ago.

Most of the change that occurs within a community is incremental, which means it does not happen overnight. We have the ability to plan for sustainable growth during the next twenty years. But do we have the courage to face this task? If we, as citizens of southern New Hampshire, don't begin to look closely at the regulations that control our growth, developers will continue to make our land use decisions for us. Is that good planning?

Both the state and local communities are recognizing the need for smart planning, and many communities in southern New Hampshire have already enacted policies and regulations to manage growth *smartly* as it occurs.

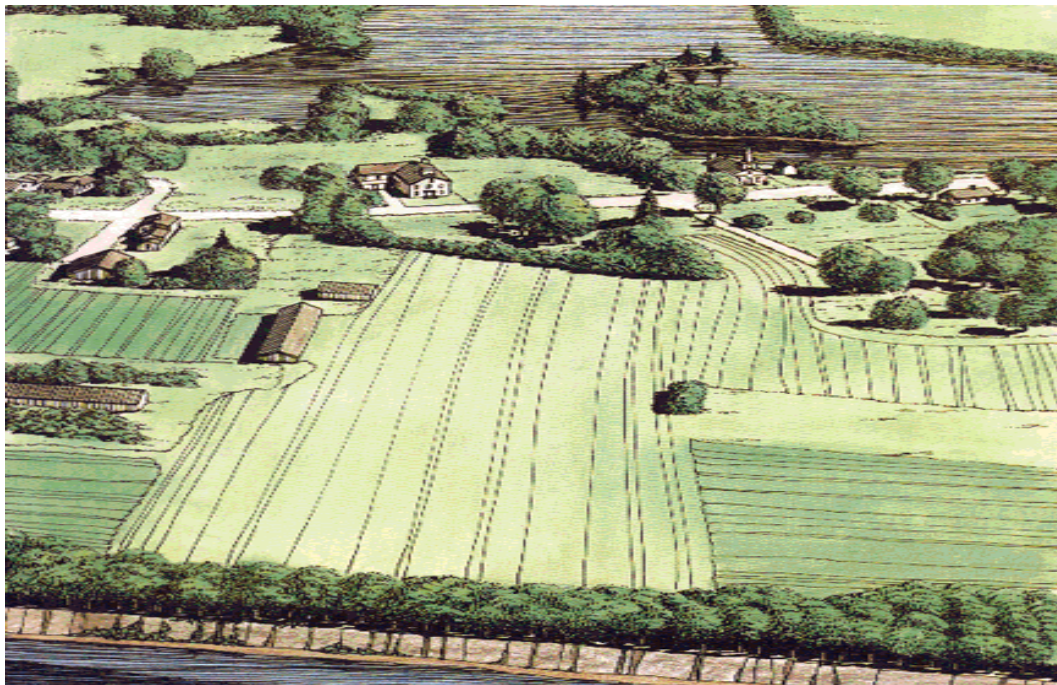
The remainder of this document will focus on Smart Growth alternatives that may be considered for adoption in the future. Regulations already in place within southern New Hampshire communities will be reviewed in order to determine what is working for them.

**“Never doubt that a small group of thoughtful concerned citizens
can change the world. Indeed, it’s the only thing that ever has.”**
Margaret Mead

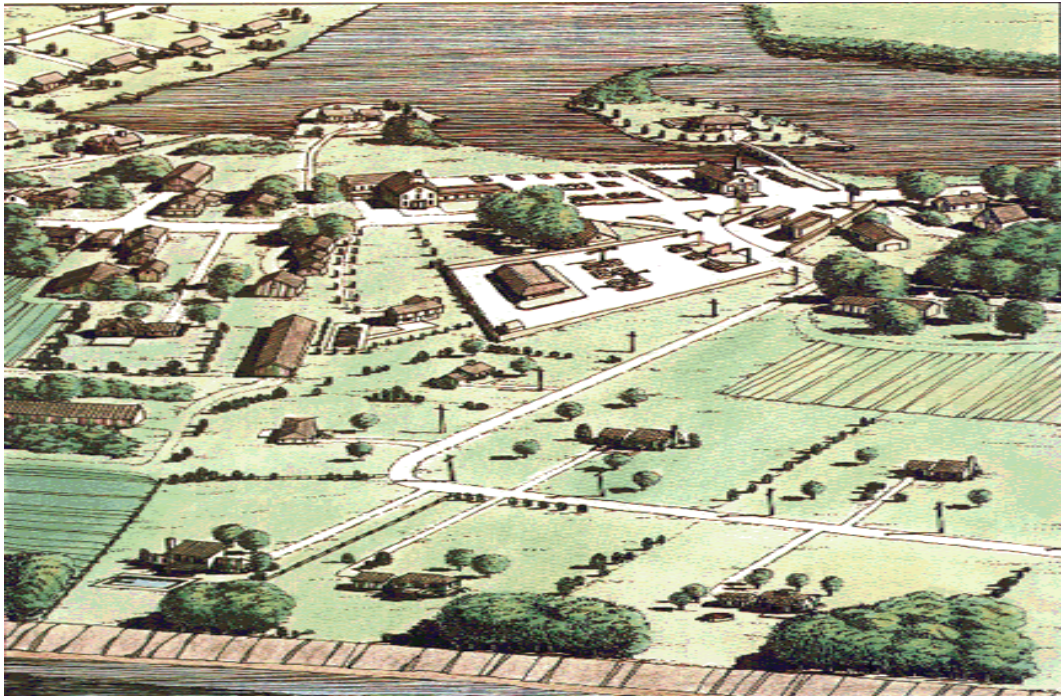
II. SOUTHERN NEW HAMPSHIRE: Smart Growth Regulations that are Working

A look at the following graphics that compare before and after development scenarios with and without Smart Growth indicates how our landscape can look in the years ahead. We can continue to choose sprawl development, but doesn’t it make sense to require development to be the way we want it?

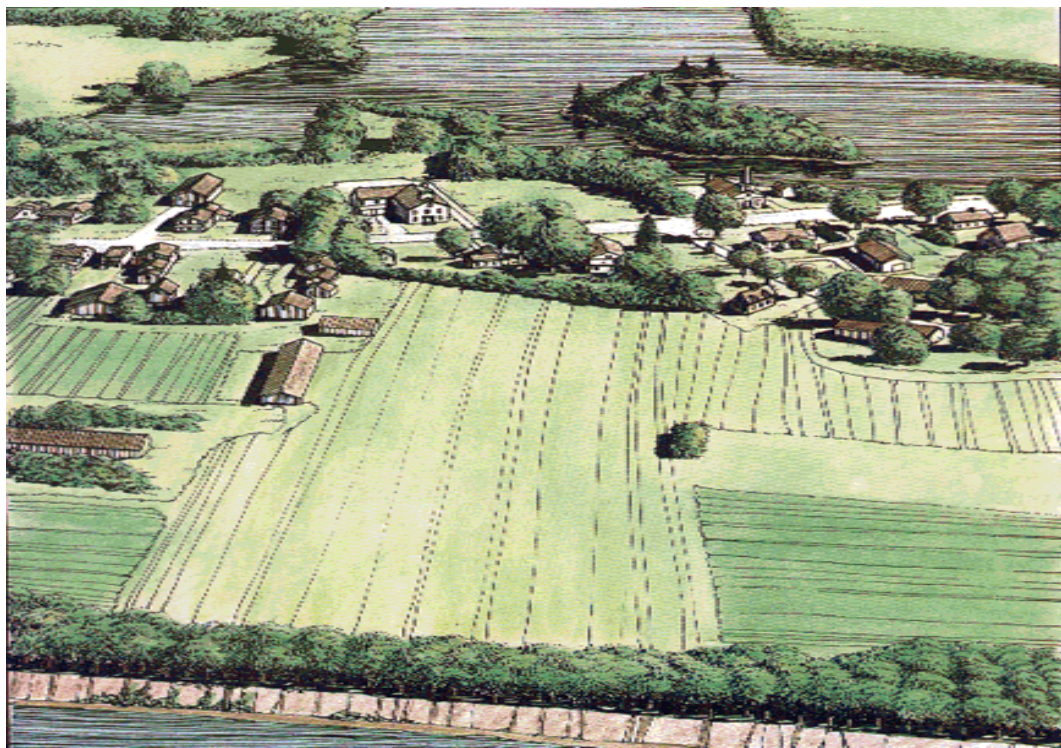
GRAPHIC I. SMALL, UNDEVELOPED NEW ENGLAND VILLAGE:



GRAPHIC 2. SITE FOLLOWING DEVELOPMENT RESULTING IN SPRAWL:



GRAPHIC 3. LANDSCAPE AS A RESULT OF SMART GROWTH, LEAVING PLENTY OF OPEN SPACE FOR ALL TO ENJOY:



Above graphics courtesy of Randall Arendt

Landscapes such as the one pictured on the previous page are the result of *compulsory* open space zoning.⁹ This technique has been successfully implemented by a number of municipalities in New England.

New Hampshire Research: Growth Management Advisory Committee

In the state of New Hampshire's *Managing Growth in New Hampshire: Changes and Challenges*, case studies were conducted on a number of fast growing communities to determine how growth trends are affecting land development patterns in New Hampshire. The study looked at the effects of sprawl on the economy, taxes, loss of open space, air and water quality, wildlife habitat, community identity and quality of life. The study made recommendations on local, regional and state growth management and associated legislative initiatives.

Below are selected conclusions from *Managing Growth in New Hampshire: Changes and Challenges*:

- Land development has occurred incrementally in New Hampshire.
- Incremental development patterns across New Hampshire have resulted in fragmentation and loss of important forest lands, wildlife habitat, and other sensitive environmental areas.
- The impacts associated with growth and development are cumulative over decades.
- Few communities ever examine the possible development impacts of their own zoning ordinance or land use regulations, resulting in failure to anticipate potential problems from cumulative future development.
- Local land use planning in New Hampshire is based on a master plan.
- The intent of a cluster ordinance may be to preserve undeveloped land, but too often local cluster development regulations conflict with that intent.
- The case studies found that several communities are taking specific actions to deal with growth and development.
- People in New Hampshire are increasingly concerned about good community design for residential and commercial development.
- 'Leapfrog development' is commonly associated with sprawl development patterns.
- An effective growth management program in one community can result in increased growth in an adjacent community.
- Development has become a regional as well as local issue in New Hampshire, especially commercial and industrial development.

⁹ See Appendix B: Open Space Zoning: What Is It and Why It Works.

Following are some of the recommendations from *Managing Growth in New Hampshire: Changes and Challenges*:

- Update and Revise New Hampshire Planning Statutes.
- Establish and Coordinate State Development Goals and Policies.
- Coordinate Regional Land Use Planning with State Transportation Programs.
- Improve, Support and Strengthen the Role of Regional Planning Agencies.
- Improve Efforts to Protect Significant Farm Land, Forest Land, Natural Habitats, and Historic and Cultural Resources.
- Strengthen Efforts to Revitalize and Redevelop Urban and Small Town Centers.
- Address the Growing Need for Affordable Housing.
- Recognize the Impact of State and Local Government Investment Policies [In Land Use Decisions].
- Encourage Creative Local Partnerships.
- Improve the Management of Information Related to Growth and Development.

New Hampshire is not alone. Over 30 states are considering some form of Smart Growth policy which links development with quality of life issues. Currently, the Office of State Planning is working on the GrowSmart NH Toolkit, including case studies for the towns of Chester, Derry and Pembroke, which will then become the basis for a series of Fall 2002 training sessions and workshops for local communities. Collaboratively, these tools and sessions will comprise the essential materials for a GrowSmart NH initiative to motivate and educate New Hampshire communities and citizens to deal more effectively with the impacts of growth across the state.

Southern New Hampshire: How Communities are Using Smart Growth

During the past 20 years, great strides have been made by a number of communities in southern New Hampshire in response to the rapid population growth that has taken place. A number of communities have adopted innovative land use techniques to deal with these growth issues.

Among the innovative land use regulations in use within southern New Hampshire are the following:

- a. Open Space Development/Cluster Provisions
- b. Residential Planned Unit Development
- c. Village Plan Alternative
- d. Encourage Infill and Redevelopment
- e. Overlay Districts:
 1. Drinking Water
 2. Wetlands
 3. Steep Slopes
 4. Agricultural

- 5. Village
- 6. Historic
- f. Phased Growth Planning
- g. Interim Growth Moratorium
- h. Mixed Use Development
- i. Elderly Housing Overlay District
- j. Limitation on Building Permits
- k. Conservation or Open Space District
- l. Forestry District
- m. Floodplain Development Ordinance
- n. Access Management and Nodal Development
- o. Avoiding Fragmentation of Open Space Lands
- p. Location of Public Buildings
- q. Urban Growth Boundaries¹⁰

Table 1 on page 15 presents a summary of Smart Growth regulations used by SNHPC communities in their zoning ordinances and other local regulations. Most communities in this study have a Wetlands Overlay District and an Agricultural Overlay District. Only the City of Manchester includes language that encourages infill and redevelopment. None of the communities have any regulations pertaining to urban growth districts—a common feature in a number of other states.

Local Growth Management Zoning Provisions

a. Open Space Development/Cluster Development. Open Space or Cluster Development is normally intended to promote the conservation of the natural environment, balance community needs such as housing and open space, preserve wetlands and other natural areas, provide for an efficient use of land, and stimulate innovative approaches to land development.

Generally, a large tract of land is required to utilize this provision, usually 15 or 20 acres, and must be approved by the planning board. Minimum percentages are required for wetlands preservation and other natural or historical features. Open spaces within an open space/cluster development may be required to be protected by recreation and conservation easements, and be conveyed to the property owners to be maintained as permanent open space. Towns in the SNHPC region with open space/cluster development provisions are Auburn, Bedford, Chester, Hooksett, New Boston, Raymond, and Weare.

b. Planned Unit Development. Similar to Cluster Development, Planned Unit Development encourages the preservation of open space, flexibility in residential development design, and the efficient use of land areas. The development should fit in with surrounding neighborhood characteristics.

In this region, the City of Manchester and the towns of Londonderry and Raymond utilize Planned Unit Development.

¹⁰ Not currently in use within the 13 SNHPC communities.

c. Village Plan Alternative. The village plan alternative, as adopted by the 2002 New Hampshire legislature, allows for a new option for municipalities—the village plan alternative subdivision. The village plan alternative is intended to allow for less costly roads, utilities, and other infrastructure; to improve the ability of a political subdivision to provide more rapid and efficient delivery of public safety and school transportation services as community growth occurs; and to provide owners of private property with a method for realizing the inherent development value of their real property in a manner conducive to the creation of substantial benefit to the environment and to the political subdivision’s property tax base.

In the village plan alternative, development density would be based upon the parcel’s overall development potential under local and state regulations, and would not increase beyond the conventional subdivision potential, unless the local ordinance permitted it. The village plan is intended to leave the open space in the hands of the original landowner, who could obtain the full economic benefit of the development potential of the property, while also retaining ownership to keep it as a farm, forest lot or whatever other conservation or recreation purpose the municipality determined was consistent with its goals.

If a village plan alternative development is restricted to no more than 20% of the buildable area of the original tract, the remaining open space would be subject to a conservation easement and the developed portion would be forever exempt from local zoning dimensional standards.

d. Encourage Infill and Redevelopment. This regulatory practice or policy only appears within the City of Manchester’s adopted document. Most of the towns within this region have no large areas of concentrated development, and therefore may have no need for this as a policy or regulation. However, it might be a technique to consider in the future as towns in this area begin to grow, and it makes sense to infill areas that are already served with the full range of urban services such as water, sewer, etc.

e. Overlay Districts. The following Overlay Districts, found in a number of the SNHPC communities, are used to apply special regulations to particular resources with definable site-specific characters. These districts are allowed under RSA 674:2, Innovative Land Use Controls.

Overlay districts depend on having good information concerning the natural resources inventory in the community’s master plan. GIS mapping techniques make it easier to map these districts, but the location of these resources should be checked by the people who best know the community. The planning board may then approve special regulations for each district, with final approval from the legislative body.

e.1 Drinking Water Overlay District. This district can provide extra protection for aquifers and their recharge areas, along with drinking water sources. It has been found that over 80% of the public water supplies in the state do not have adequate protection from contamination. Most communities can locate their drinking water sources and create an overlay district for their protection.

Communities with a Drinking Water Overlay District in their zoning ordinances include Derry, Hooksett, Londonderry, New Boston, Raymond and Weare.

e.2 Wetlands Conservation/Overlay District. Much of the inventory work for wetlands across the nation has been accomplished by the National Wetlands Inventory (NWI), which provides maps showing the approximate location of wetlands in our communities. Beyond this information, cities and towns are allowed to create more restrictive controls for these areas. Town-wide inventories could be developed which may be more accurate than the NWI data, especially for prime wetlands. Wetlands are a major source of water retention and release, especially during flood events in a region.

Wetlands play a critical role in regulating the movement of water within watersheds as well as in the regional water cycle. Wetlands, by definition, are characterized by water saturation at or above the soil surface for a certain amount of time during the year. This fluctuation of the water table above the soil surface is unique to each wetland type.

Wetlands store precipitation and surface water and then slowly release the water into associated surface water resources, ground water, and the atmosphere. Wetland types differ in this capacity based on a number of physical and biological characteristics, including landscape position, soil saturation, the fiber content/degree of decomposition of the organic soils, vegetation density and type of vegetation.

Wetlands are defined in the state of New Hampshire as *“Those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs and similar areas.”*

The purpose statements found in many of the wetland ordinances adopted by SNHPC communities include the following goals:

- Control and guide the use of land areas which have been found to be subjected to high water tables over extended periods of time;
- Prevent the destruction of, or significant changes to, natural wetlands which provide flood protection;
- Prevent the development of structures and land uses on naturally occurring wetlands which could contribute to pollution of surface and groundwater by sewage or toxic substances;
- Protect unique and unusual natural areas;
- Protect wildlife habitats, travelways, and maintain ecological balances;
- Protect potential water supplies and existing aquifers and aquifer recharge areas;
- Prevent expenditures of town funds for the purpose of providing and/or maintaining essential services and utilities which might be required as a result of misuse or abuse of wetlands, and

- Encourage those low-intensity uses that can be harmoniously, appropriately and safely located close to wetlands.

Communities with a Wetlands Overlay/Conservation District include Bedford, Candia, Chester, Deerfield, Derry, Goffstown, Hooksett, New Boston and Weare.

e.3 Steep Slope Overlay District. The Steep Slope Overlay District defines locations in the community where the steepness of the slope may be a constraint for development. Erosion control and stormwater management are of concern in these areas. An overlay should define the geographical area where steep slopes occur, and the angle of slope considered to be steep. The overlay district would then state what types, if any, of land development are allowed in these areas.

Only the town of New Boston has a steep slope overlay district. Other towns have conservation districts that may include steep slopes.

e.4 Agricultural Overlay District. This district works exceptionally well for active farms and areas with excellent soils for agriculture. Some communities will have a specifically designated Agricultural District rather than an Agricultural Overlay District. This district is typically a mixed-use district, which has been established to accommodate residential developments at low densities in rural settings together with agriculture, forestry, recreational and other compatible uses where municipal utilities may not be present or anticipated.

Towns with an Ag or Ag Overlay District include all in the SNHPC area except Auburn and Hooksett.

e.5 Village Overlay District. The Village Overlay, or Village Commercial, District is utilized to allow for the development of the village sections of town with a harmonious mix of commercial, residential, civic and recreational uses, while promoting pedestrian movement and the preservation of historic structures. The intent of this district is to preserve the village area as a focal point for the personal, business, religious and civic needs of the community, while allowing for growth at a scale and intensity consistent with a village setting.

The Village Overlay, or Village Commercial, District can be helpful for a town-wide approach to reduce residential and commercial sprawl, and to preserve open space.

Towns in the SNHPC region with a Village District or Overlay are Goffstown and Weare.

e.6 Historic Overlay District. Historic Districts are usually adopted to preserve the heritage of a town by protecting buildings and areas that represent significant elements of the town's cultural, social, and architectural history. New buildings or remodeling would be required to meet certain standards established for the district.

Growth Management Provisions in SNHPC Communities

Towns	Open Space/ Cluster Provisions	Planned Unit Develop- ment	Conservation/ Forestry	Ground- water Overlay District	Wetlands Overlay District	Steep Slope Overlay District	Agricultural Overlay District/Zone	Village Overlay District/ Zone	Historic Overlay District	Phased Growth Planning	Interim Growth Moratorium	Mixed Use Development Encouraged	Elderly Housing
Auburn	YES												
Bedford	YES				YES		YES		YES				
Candia			YES		YES		YES						YES
Chester	YES				YES		YES			YES			
Deerfield			YES		YES		YES						
Derry				YES	YES		YES						
Goffstown			YES		YES			YES	YES				
Hooksett	YES			YES	YES							YES	
Londonderry		YES		YES			YES		YES	YES			YES
Manchester		YES	YES				YES		YES			YES	
New Boston	YES		YES	YES	YES	YES	YES					YES	
Raymond	YES	YES	YES	YES			YES		YES				YES
Weare	YES		YES	YES	YES		YES	YES		YES			
NUMBER OF COMMUNITIES	7	3	7	6	9	1	10	2	5	3	0	3	3

NOTES: 1. Manchester encourages infill development.
2. Chester has low income housing incentives and low income density bonuses.

Minor work on buildings may not need approval, such as normal painting, roofing, and storm doors and windows.

Historic overlays are helpful since they provide a location for the use of existing historic buildings or infill of newer buildings, rather than development of new buildings on open space.

The City of Manchester and the towns of Bedford, Goffstown, Londonderry and Raymond have historic districts.

f. Phased Growth Planning. This growth technique is used to control the rate of development within a community. Before an ordinance of this type can be adopted, the community must have both a master plan and a capital improvement plan in place. There must be a very clear link between these documents in order to ensure that the regulations could withstand a legal challenge. Within communities undergoing rapid growth, slowing the rate of development can be beneficial. It gives a community time to develop needed infrastructure to support the growth and to explore avenues to keep land undeveloped.

Most communities specify both the timing of phased development, such as five years, and the number of units to be built in each phase. A phasing plan will normally limit the number of permits issued for a project during a given year, and establish a notice that unsustainable growth conditions exist within the community.

Communities within the SNHPC area that have adopted Phased Growth Planning include Chester, Londonderry and Weare.

g. Interim Growth Moratorium. When valuable open space is threatened within a community, a moratorium on development may be adopted by a vote of town residents. The moratorium will allow the planning board to put a temporary halt on development. The moratorium can last only one year, and will allow time for changes to the master plan, capital improvement plan, and zoning ordinance to include open space protection elements that reflect visions for the future, as well as the value of open space within the community.

No communities within the SNHPC currently have Interim Growth Moratorium regulations.

h. Encourage Mixed-Use Development. Another way to encourage Smart Growth is to promote development which allows people to walk to certain land uses and avoid use of the automobile for every trip. Mixed use development allows a certain mixture of land uses that are compatible with each other and may even be complementary, such as professional office uses with higher density residential uses. Small grocery stores could be allowed within walking distance of all residential uses, as they were forty years ago. This is similar to the Village District, and could be one of the key techniques for town revitalization.

Communities that encourage mixed use development include the City of Manchester and the towns of Hooksett and New Boston.

i. Elderly Housing Overlay District. This District encourages the construction of elderly housing normally for those persons over 55 years of age. Elderly housing is sometimes required to be in compliance with the Fair Housing Act, as amended, where a project may lawfully discriminate in favor of elderly residents. The developer is usually required to provide allowance for the needs of the elderly person, such as to site the facility within walking distance of appropriate facilities. Higher densities are typically allowed for this type of development.

Towns with an Elderly Housing District or Overlay include Raymond, Londonderry and Candia.

j. Limitation on Building Permits. To help conserve open space during times of unsustainable growth, the planning board's notice could include limitations on the issuance of residential building permits. This is closely related to the Phased Growth Strategy previously mentioned. The notice would include an explanation of the sustainable annual rate of development, and the number of building permits for new dwellings that will be allocated during the period.

The number of permits allowed annually should be correlated with the goals of the master plan and the growth pressure felt by the community. Some towns set their permit numbers by comparing the rate with adjacent towns in order to link their growth rate with that of the region.

The town of Londonderry incorporates this provision in its zoning regulations and utilizes it when necessary.

k. Conservation and/or Open Space District. These terms or districts have been used in a number of instances to replace cluster development, and may help to protect traditional local land use patterns. This regulation typically allows the use of village centers surrounded by open areas, which have been a tradition in New Hampshire for many years. This provides for permanent protection of open space, while using less land for development. The open space may be permanently protected by the use of a conservation easement, a homeowner's association, or deeding the land to a conservation organization or town. A town must have adopted a cluster ordinance before this type of development can be encouraged.

Communities utilizing this technique include Candia, Deerfield, New Boston, Goffstown, Raymond and Weare. Weare's conservation zone requires lot sizes to be doubled unless the developer utilizes cluster housing, with the zone based on wildlife corridors, remoteness from infrastructure, prime agricultural lands and proximity to existing conservation areas.

l. Forestry District. Forests occupy approximately 84 percent of the land within the state of New Hampshire, but this number is expected to be reduced to 80 percent by the year 2010.¹¹ This vast resource is protected in some towns by conservation and forest covenants and easements. Many towns will place much of their forest land within an open space plan for the community. Forests have a great potential for land preservation, but much of this land is being lost to development.

m. Floodplain Development Ordinance. Flood Hazard Districts have been around for many years, and are required if a town wishes to participate in the federal flood insurance program. Land within these districts may be built upon, but structures must be flood-proofed according to the community's requirements as set forth within its flood hazard regulations.

The floodplain areas, along with riparian habitat, play an important role in connecting habitat and open space systems in the state. Towns should consider whether or not their floodplain regulations are tough enough to discourage new development within their special flood hazard areas.

All SNHPC municipalities currently have floodplain development ordinances.

n. Access Management and Nodal Development. A number of communities have begun to assess transportation's impacts on land use and how land use and transportation planning are related. Access Management provides for the ability to control the number and location of access points to a property, usually along state routes or other major streets in town. Nodal Development usually relates to the development of village districts, while encouraging bicycle or pedestrian modes, with lands in between being used for low density, low traffic uses.

Decreased street widths can play a role not only in reducing the speed of traffic, but also for the reduction of non-point water runoff and stream pollution. Parking lot design may enhance traffic movement to expedite travel from streets into the parking lot, as well as provide for easier access to the lot. Shared driveways also play a role along busy streets, especially where a town wishes to limit the number of access points to reduce turning and other traffic conflicts.

The towns of Cornish and Lyme have developed Nodal Development zoning within their towns to encourage individuals to locate structures and uses in order to reduce traffic movements and encourage additional alternatives to vehicular use, such as walking and biking between village areas.

o. Avoiding Fragmentation of Open Space. A town may wish to develop an open space plan, or place regulations within their subdivision and/or zoning ordinance, to plan for the retention of open space by avoiding fragmentation of these areas. This will allow

¹¹ "New Hampshire's Vanishing Forests: Conversion, Fragmentation and Parcelization of Forests in the Granite State." Report of the New Hampshire Forest Land Base Study, April 2001.

habitat to roam within their natural range, as well as provide for more open space for both residents and visitors to enjoy.

The towns of Candia and Weare have recently completed open space plans that include a map displaying unfragmented lands for consideration during the selection of open space areas.

p. Location of Public Buildings can also play a key role in sprawl reduction. If these structures are located within villages, downtowns, or higher density districts, more people will be able to walk to these facilities instead of driving to them.

The State of New Hampshire encourages state agencies to establish priorities for grant programs that strengthen village centers and downtown areas, and to prioritize any investments to locally designated growth areas.

q. Urban Growth Boundaries. This growth technique has been at the center of debate for a number of years, and has been implemented as a key part of growth management legislation in several states.

While the jury is still out on how effective growth boundaries have been in the other states, the law has usually mandated that communities work with counties to determine the size of their growth area. A few communities in the state of New Hampshire, including Concord and Keene, have “de-facto” growth boundaries, essentially limiting growth to those areas with city water and sewer service.

No communities within the SNHPC area currently utilize growth boundaries as a deterrent to sprawl.

Incentive-Based Techniques for Open Space Conservation

A number of land use techniques for open space conservation are available that are not mandatory, but are permitted under New Hampshire law. These are the Current Use Program, Impact Fees, Transfer of Development Rights, and Density Bonuses, which are explained below.

- a. Current Use Program.** This program, available to all communities as required by state law, encourages property owners to keep their property undeveloped. Land is taxed on its potential to generate income as farmland, wetland, or forest. Parcels must usually be at least ten acres to qualify, but there are a few exceptions. If the site is developed, a tax of ten percent of the land value is charged at the time of the change, and paid to the community. New Hampshire towns and cities received over three million dollars during 1998 from the land use change tax. Every incorporated township in the SNHPC area has land enrolled in the current use program.
- b. Impact Fees.** Impact fees help communities pay for the cost of development by charging it back to new growth that occurs in the community. For example, some towns have researched the cost of education for one student and charged

this amount or some smaller amount to each residential housing unit built in the town. While this probably will not stop the growth of new housing units in an area, some people may look to existing housing if the impact fees are high enough to discourage new construction and resulting sprawl. Residential use of land does not usually pay for the services required. Both Londonderry and Hooksett have proceeded toward the utilization of impact fees in their communities.

- c. Transfer of Development Rights (TDR).** The TDR program uses market forces to transfer development rights from one property to another. Although it is used to achieve community objectives, the concept of TDR is fundamentally tied to private property rights. All owners of private property in the United States hold with it an interest in a "bundle of rights." "Sticks" in the bundle may include the right to maintain the present land use, the right to mine or excavate, and the right to build or subdivide. TDR suggests that the right to develop property can be transferred from one property owner's bundle (sending area) to another owner's bundle (receiving area) to achieve community land use goals. This technique permanently preserves open space and makes less land available for sprawl. The planning board could identify appropriate sending and receiving areas and change the receiving area zoning to make the land more attractive for development. Bedford has a TDR program but has not had any land transfers to date.
- d. Density Bonuses.** This program encourages developers to provide desirable areas in the community such as parks, playgrounds or open spaces in exchange for higher densities, reduced road widths and reduced building setbacks. Density bonuses are most often applied in cluster developments, where higher than normal densities would be expected.

Sprawl, Public Transit and Other Travel Choices in Southern New Hampshire

Public Transit and Commuter Rail Service

While very few of the smaller southern New Hampshire communities currently utilize public transit as an alternative to the typical single-occupant vehicle, this mode of transportation has been widely used throughout the country's metropolitan areas with great success. The use of both light rail vehicles, which usually require high densities, and bus systems that run through a number of the nation's larger communities, play a major role in transporting people from home to work, school, and other destinations.

Commuter Rail From Lowell, Massachusetts to Nashua and Manchester, New Hampshire¹²

The New Hampshire Department of Transportation (NHDOT), Nashua Regional Planning Commission, and the City of Nashua are currently exploring alternatives for the extension of commuter rail service. Currently commuter rail service, provided by the Massachusetts Bay Transit Authority (MBTA), terminates in Lowell, Massachusetts, approximately 15 miles from Nashua.

¹² Information provided by the Nashua Regional Planning Commission

Currently there exists a window of opportunity for the extension of commuter rail to the southern New Hampshire region. There are several factors that contribute to this opportunity:

1. Public support is strong, both in New Hampshire and in Massachusetts. Both the Mayors of Nashua and Manchester strongly support the extension of service, as does the New Hampshire DOT. NHDOT is currently in the preliminary engineering phase for this project, and through this process is working with officials in both Massachusetts and New Hampshire on issues of mutual concern.

2. As a longer term goal, other train stations have been conceptually identified at major transportation nodes in the region that will provide the greatest multi-modal benefit. These include a location near the terminus of the forthcoming Circumferential Highway in south Merrimack, at the proposed Manchester Airport Access Road in Bedford, and in downtown Manchester. Service is proposed to extend from Lowell to downtown Manchester, either as one project or in phases depending upon funding availability.

3. TEA-21 provided an authorization in the \$8 million New Starts Program for an application for a Nashua passenger rail extension. This does not guarantee funding but provides the opportunity to submit a grant application for consideration, which was subsequently approved.

An additional \$2 million was included and approved in the FY2002 budget. For the FY 2003 budget an additional \$3 million was approved for this project.

Amtrak

Following a \$52 million overhaul, Amtrak rail service from Boston to Portland became operational during December 2001. Trains run between Portland, Maine and North Station in Boston. This Downeast Passenger Rail Service stops at Old Orchard Beach (summer only), Saco and Wells, Maine; Dover, Durham, and Exeter, New Hampshire; and Haverhill, Massachusetts. Ridership on these trains has been higher than was expected during the planning phase of this service. While the overall status of Amtrak is unclear at this time, it does appear that there is support to keep the service operative for the near future.

Bus Service

Bus service is available in a number of cities in the southern New Hampshire area. Unfortunately, many people do not work within their own community, but travel to another town or state. Some use carpools or vanpools to arrive at their destination. It could be several years before densities in southern New Hampshire grow large enough to warrant the establishment of public transit for daily commuters.

Bicycle and Pedestrian Options

While most people cannot walk or bike to work in the southern New Hampshire area, it is not impractical to plan for these activities while implementing other transportation systems. The enhancement of non-motorized travel options should be considered when planning for transportation improvements in the future. The Segway, developed in

southern New Hampshire, is an example of a new non-motorized transportation mode that should be considered while we plan and build new transportation infrastructure in our communities.

Techniques and Ideas that Work in New Hampshire:

Affordable Housing. While many communities find it difficult to deal with this subject, the development of affordable housing can play a key role in reducing sprawl throughout the area. Affordable housing units are usually located on smaller lots than the average house built in southern New Hampshire, and are typically located close to transit in the larger cities.

Higher Densities for Sustainable Growth may be one way to reduce housing costs. New housing should create communities, not just follow roads, and higher density doesn't need to mean "high-rise." A mixture of houses, apartments, duplexes and town houses suitable for singles, families and older residents may be appropriate in many areas. In some areas higher density housing is the only sustainable alternative to sprawl.

Mixed Use Development may play an important role in today's low-density communities, especially on smaller scales here in New Hampshire. The prevailing developer belief that large-scale, mixed-use projects have a future is shared by the executive director of the Urban Land Institute's Council in Atlanta, Jim Durrett, who says, "Even though they are largely greenfield developments located outside the urbanized area, I don't think mega-developments fly in the face of Smart Growth."

Stratham Open Space Bond helped the Town to save 750 acres of open space property. Fifteen other New Hampshire towns have also passed bonds to save open space lands. Fueled with this knowledge, the Stratham Conservation Commission decided in November to embark on a major campaign to permanently protect 750 acres, roughly one-third of the remaining buildable land. They named the campaign "Stratham, Our Town," and decided to ask the voters at a Town Meeting to approve a \$5 million bond to be paid back over 15 years. The amount and term would keep the residential tax increase at or just under \$1 per \$1000, and would give Stratham the flexibility to save significant parcels of open space.

Non-Point Stormwater Runoff containment measures help to bring streams, rivers and lakes back to life. This may include both high-tech pollutant conversion devices and low-tech landscaping methods.

New Hampshire Smart Growth Policies will play a larger role in the development of land in this state, as well as limit the sprawl (and associated costs) that diminish the quality of life in a community. Sprawl may sometimes quadruple the price tag for public services.

Revise development standards to enable construction of more creative small-lot, single-family, and multi-family homes compatible with existing neighborhoods. Many communities do this now under their village, cluster or open space development

regulations. Other strategies could be included such as mother-in-law apartments, narrow width roads, and reduced setback requirements.

Pursue regional cooperation between local governments and agencies to address issues that cross political jurisdictions to ensure orderly growth and regional prosperity. As with affordable housing, governments can cooperate while trying to develop Smart Growth strategies for their area. For example, if all governments decided to only allow growth with increased densities, the developer could not go next door to develop—he or she would have to travel to a different region for other development opportunities.

Conserving natural resources by minimizing the consumption of land (through compact development, for example) and maintaining and restoring existing environmental attributes of development sites. Open space programs would typically allow a community to retain environmentally sensitive areas while still allowing growth to occur within compact nodes or villages.

Make cost-effective use of existing and renewable resources such as infrastructure systems, underused sites, and historic neighborhoods and structures. A number of communities have invested many dollars to develop their infrastructure to support existing land use patterns. Underused sites may also be considered ripe for development, especially if they are served by utilities and recognized by the community as a prime location. Historic neighborhoods are generally the showplace for a community and, if taken care of, can be an area for both new development and the rehabilitation of existing structures.

Use land wisely to minimize development impacts on land, water, energy, and other natural resources and to protect regional natural resources and environments that help sustain urban economies and societies.

Weave a network of natural spaces throughout the urban and urbanizing fabric of developing communities to conserve valued natural resources and environments and to provide opportunities for human appreciation of, and benefit from, such features.

Promote sustainable forms of economic activity and social interaction that satisfy the diverse needs and desires of community residents.

Take advantage of a site's natural assets by preserving the existing landforms and vegetation that define its natural structure and character.

Refrain from breaking up or promoting intrusion into contiguous expanses of sensitive habitats and wildlife movement corridors, especially those of threatened or endangered species.

Some Sustainable Development Options

Sustainable Development promotes economic prosperity while enhancing social equity and protecting ecological integrity. Smart Growth, which represents a means to achieve sustainable development, is an interconnecting system of principles used to describe specific land activities. A report prepared by the American Planning Association identifies the following principles as key elements of Smart Growth:¹³

- *Effective Use of Land Resources:* Use more compact and infill development in order to preserve land and natural resources. This type of development pattern would also lessen dependence on the automobile, and thus reduce energy consumption and air pollution. More compact development patterns would also use infrastructure resources more cost-effectively than sprawl development.
- *Full Use of Urban Services:* Encourage creation of neighborhoods that allow more people to use existing municipal services such as water lines, sewers, roads, emergency services, and schools. A key focus of this approach involves more careful sizing of streets and parking areas to reduce development and maintenance costs, and protect important adjacent environmental characteristics.
- *Mix of Uses:* Promote a wide variety of land uses, such as stores, residences, schools, and recreation spaces within walking distance of each other in compact neighborhoods served by pedestrian-oriented streets. This mixed use approach also encourages the development of a variety of housing choices for young and old, singles and families, and different economic groups.
- *Transportation Options:* Creating safe, convenient, and interesting transportation alternatives is a hallmark of Smart Growth. This involves developing a connected network of streets providing options for walking and biking. Mass transit options should also be promoted as an alternative to the private automobile where feasible.
- *Detailed, Human-Scale Design:* Gaining community acceptance of compact mixed-use development requires revising design elements dealing with the compatibility of buildings to ensure privacy, safety and visual coherency. Changes will need to be made to development regulations dealing with factors such as the massing of structures, orientation of buildings to streets, and landscaping. Careful attention must be directed to the layout of streets and sidewalks to provide an increased sense of pedestrian safety.
- *Implementation:* Achieving the Smart Growth principles outlined above requires changing the process used by communities to review and approve development proposals. For example, the land use review process should be streamlined to encourage private investment in the application of these new design principles. Time-consuming, costly, and inflexible development standards are a barrier to innovative development proposals. New regulations should be flexible in application and provide a degree of certainty in terms of standards and the approval process. Specific design review standards should be incorporated in the approval process.

¹³ These concepts are based on a report titled "The Principles of Smart Development," Planning Advisory Service Report Number 479, American Planning Association, September 1998.

**When we see the land as a community to which we belong,
we may begin to use it with love and respect."**

Aldo Leopold

III. CASE STUDIES:

Smart Growth Tools in New Hampshire

Smart growth is a relatively new concept for many New Hampshire communities. We are learning much from each other about what works and what doesn't as a result of the zoning and subdivision regulations we have imposed on our towns. Many changes will take place during the next several years as the state implements new legislation designed to enhance our ability to grow smart.

The following examples of Smart Growth have been implemented by New Hampshire communities:

1. Brownfields Redevelopment: Nashua, New Hampshire
1. Performance Zoning for Highway Corridor: Bedford, New Hampshire
3. Affordable Residential Infill and Pedestrian Scale Commercial Development: Hanover, New Hampshire
4. Nodal Development: Cornish, New Hampshire
5. Downtown Revitalization: Milford, New Hampshire
6. Open Space Through Cluster Housing Regulations: Weare, New Hampshire

BROWNFIELDS REDEVELOPMENT

1. Nashua, New Hampshire: Successful Partnerships Transform Brownfields to Useable Lands

The first loan agreement under the New Hampshire Department of Environmental Services' Brownfields Cleanup Revolving Loan Fund program was signed on January 17, 2002, by developers Peter Smith and Dean Jackson, of Smith Jackson, LLC. This \$189,000 loan will assist with cleanup costs for the former Whitney Screw site in Nashua, NH. The redevelopment will provide expanded facilities for two local businesses, Goodale's Bike and Outdoor Power.

This success is the outcome of the cooperation and commitment of the U.S. EPA's Brownfields Program; the City of Nashua's Brownfields Assessment Demonstration Pilot; several programs within NH DES, including Brownfields; the Oil Pollution Control Fund Tank Removal Program; the New Hampshire Petroleum Reimbursement Fund

program; and Smith Jackson, LLC. The strength and credibility of the partnerships resulted in approximately \$2,000,000 of leveraged private investments by the developers. This is a great example of coordinated use of the Brownfields Assessment Demonstration Pilot Program, the Brownfields Cleanup Revolving Loan Fund, and other important state agency brownfields tools to transition an abandoned, contaminated property to productive reuse.

Whitney Screw Site Background

The 5.4-acre former Whitney Screw site, at 14A and 14B Broad Street, abuts a mix of residential properties and businesses to the north, east, and west, and an active rail corridor to the south. Historical use of the property involved a variety of industrial activities under a series of ownerships beginning in the early 1900s. Whitney Screw's plating room operations ceased in April 1985. Currently, a one-story warehouse complex (89,610 square feet) consisting of 12 attached structures spans the site. Whitney Screw was involuntarily dissolved by the Secretary of State on November 3, 1997. As of December 2000, property taxes had not been paid in 8 years, with back taxes and penalties totaling \$350,000.

Redevelopment Plan

Smith Jackson, LLC plans to spend \$2,000,000 on improvements to demolish approximately 20,000 square feet of the existing warehouse complex and to renovate approximately 50,280 square feet of building space to house new tenants. Smith Jackson, LLC signed purchase and lease agreements with two local commercial businesses. Goodale's Bike is New England's largest bicycle dealer, in business since 1919, and has been at its downtown location for the past 31 years. The company will combine and relocate its three separate Nashua facilities to the renovated building. Approximately 12,200 square feet of retail and showroom space, as well as expanded service and storage areas, will be available to the company.

Outdoor Power, the largest John Deere equipment distributor in New England, plans to relocate to this renovated site in order to meet their expanded needs as well.



Two large businesses, Goodale's Bike Shop and Outdoor Power, will relocate to the former Whitney Screw Company building complex, a reclaimed brownfields site.

Evaluation of Nashua's Brownfields Redevelopment Project:

Redevelopment of brownfields can play a key role in helping our communities avoid sprawl by using lands that already have utilities and other municipal services. The re-use

of sites such as this will allow companies to locate in a desirable facility while saving other land from development.

In January 2002, at the signing of the Small Business Liability Relief and Brownfields Revitalization Act, President Bush stated: *“Further benefit will come as businesses recycle older properties and spare surrounding lands from development. There has been a lot of talk about urban sprawl. Well, one of the best ways to arrest urban sprawl is to develop brownfields, and make them productive pieces of land, where people can find work and employment. By one estimate, for every acre of redeveloped brownfields, we save four and a half acres of open space.”*

This project proves that brownfields redevelopment can be successful when the correct partnerships are lined up. Continued development of brownfields will help save lands and slow down sprawl in our state.

PERFORMANCE ZONING FOR HIGHWAY CORRIDOR

2. Town of Bedford, New Hampshire: U.S. Route 3 Corridor

Performance Zoning District

The Town of Bedford, New Hampshire instituted this innovative land use control during 1994. The intent is to establish performance standards for uses allowed within the Route 3 corridor. Performance standards measure the quantifiable impacts of each proposed development rather than prohibiting certain classes of land use.

Within this zoning district, private “shared” access drives are encouraged for two or more properties along US Route 3 having not less than 300 feet of frontage. Incentive bonuses are available for deeding of easements, in the form of additional impervious lot coverage. Minimum lot sizes and frontage can be reduced when the developer either fronts on local roads or has shared access from Route 3.

The developer is also encouraged to provide a “pedestrian friendly” environment through the inclusion of sidewalks, barrier-free street crossings, mass transit shelters, public benches, and bicycle racks.

The Street Tree Landscape Strip allows an incentive bonus for preserving a healthy native tree with a caliper of 3 inches or greater. The bonus removes the requirement of a new Street Tree planting when a healthy native tree is preserved. Additionally, each healthy native tree with a caliper of four inches or greater preserved within the Front Landscape Strip may be substituted for two new Front Landscape trees. Healthy existing woodland may be retained in order to fulfill the planting requirements with the Side and Rear Landscape Strips.

If any portion of a parking area or driveway is immediately adjacent to a required Side or Rear Landscape Strip, visual screening of the automobile parking areas is not required. Within Interior Pavement Landscape Strips, each healthy native tree with a minimum caliper of 4 inches or greater which is preserved may be substituted for three new

required tree plantings. Other incentive bonuses apply to landscape requirements for signage and interconnected parking lots.

Evaluation of Bedford's Performance District Regulation:

The U.S. Route 3 Corridor Performance Zoning District is a pleasure to drive along, since



much of the area between the street and the parking areas or buildings is amply covered with different types of landscaping. One can immediately tell which developments came before performance zoning was required. For the most part, the landscaping and lawn areas are well maintained, and trees border the street area as well as the parking areas.

Plenty of landscaping in Bedford's Route 3 Performance District¹⁴

AFFORDABLE RESIDENTIAL INFILL AND PEDESTRIAN SCALE COMMERCIAL DEVELOPMENT

3. Town of Hanover, New Hampshire: Residential Infill Within Walking Distance of Downtown, and Pedestrian Friendly Commercial Development

In a joint venture between the Town of Hanover and Dartmouth College, two projects combine to establish affordable housing and a friendly mix of retail and office uses. The redevelopment of a four-acre block at the intersection of Park and East Wheelock Streets allowed for the addition or "infill" of 22 units of walk-to-work rental housing to the existing 16 housing units on site in a manner consistent with traditional neighborhood development. The new units include duplex town homes, four-plexes, and a larger 8-unit building. The development offers a range of modestly priced units within walking distance of downtown Hanover.



7 Lebanon Street

The other project in Hanover, at 7 Lebanon Street, integrates a mix of retail and office uses with 289 spaces of public parking. The 3-story brick building was also noted for its well-proportioned façade that fits the context of its downtown surroundings. The building added 45,000 square feet of commercial space to the downtown area. The site was formerly a surface parking lot and small drive-thru bank. The display windows and doors that line the building add appeal for pedestrians.

¹⁴ Photo SNHPC



Hanover's Marshall Brook Natural Area, near Goose Pond¹⁶

Hanover also has adopted an award winning¹⁵ Open Space Priorities Plan during 2000. This Plan will protect Hanover's fragile ecosystems while maintaining the town's ability to plan for continued development of commercial and residential areas that will allow residents to enjoy existing open space areas.

Evaluation of Hanover's Projects: Infill of residential areas, especially near the downtown area, provides residents with the option of living close to work, and the ability to walk reasonable distances to other areas of interest. Incorporating a mix of retail and office uses also allows people to enjoy lunch hour in a nearby lunch facility. The Open Space Priorities Plan will be of great benefit to the Town since they have established priorities for those areas they want to retain as open space.

NODAL DEVELOPMENT

4. Town of Cornish, New Hampshire: Nodal Zoning

The Town of Cornish, New Hampshire, located along State Highway 12/12A/10, has developed a zoning ordinance that creates nodal village districts at two of its village centers off this corridor: Cornish City and Cornish Flat, a smaller hamlet.

A mix of residences and certain businesses are allowed by right, such as banks, antiques or craft stores, and service establishments. Home occupations and cluster development are also allowed. Cornish recently amended its ordinance to allow "expanded cottage industries," home occupations of up to 5,000 square feet along state highway frontage. Greater residential densities are allowed in the village than are permitted in the Rural Zones.

Nodal Zoning encourages development within these villages rather than along the roadway, which typically creates sprawl. A more rural, open countryside character is encouraged along the corridor frontage.

¹⁵ Award from Office of State Planning, Planning and Project Development of the Year, 2001.

¹⁶ Photo courtesy of the Town of Hanover, from its Open Space Priorities Plan.



Cornish is famous for the Cornish-Windsor Covered Bridge¹⁷

In 1974, the zoning intent was to support an historical and traditional settlement pattern of villages with outlying areas, including land along the state highway corridors, remaining as open, sparsely settled rural countryside and woodland. The zoning blueprint, supporting this traditional pattern, was adopted before patterns of linear commercial corridor development became established.

The zoning ordinance was designed to support the desired land use pattern for the entire community. Growth has followed the original settlement pattern, with little inappropriate development and no strip development along the state highway corridors.

For maximum effectiveness, “de-stripping” should occur along the entire Route 16 corridor, which will change the existing linear commercial zoning to a less intensive use, such as agricultural, rural residential, or very low intensity commercial. This holds the promise of re-establishing the village centered developments along this corridor, and can also work in other communities.

Evaluation of Cornish’s Zoning: The purpose of Nodal Zoning is to encourage development within village districts in order to make it more convenient for people to travel to these village areas, as well as to reduce the turning movements and increased traffic that occurs when commercial uses locate along highways. Development of village areas will also allow people to bicycle and walk to business areas, rather than drive to them. Higher densities are allowed in the village districts, which should reduce sprawl in the rural areas. Between these village districts, the zoning allows for rural residential uses as well as agricultural uses, which do not generate heavy volumes of traffic or a high number of turning movements. This is a good example of utilizing innovative zoning techniques to help curb sprawl and inappropriate development, while facilitating traffic movements along an adjacent state highway.

DOWNTOWN REVITALIZATION

5. Town of Milford, New Hampshire: Main Street Award 2002

The National Trust for Historic Preservation announced that Milford, New Hampshire, has earned a 2002 Great American Main Street Award. The award recognizes the nation's best efforts in downtown revitalization through historic preservation. The award was presented at the National Trust's 2002 National Town Meeting on Main Street in Fort Worth, Texas.

"Against overwhelming odds, Milford bounced back and is more successful than ever," said Richard Moe, president of the National Trust, which works to save diverse historic

¹⁷ Photo by Arthur F. Rounds, 1994

places and revitalize communities. "We are proud to honor Milford with one of this year's Great American Main Street Awards and congratulate the town's leaders for their perseverance and excellence in revitalizing their commercial district."

Milford's grass-roots effort to save the threatened historic town hall was the catalyst for the preservation movement to restore the deteriorating business district. Following the successful \$1.2 million restoration of town hall, Milford formed a new community based organization, the Downtown Ongoing Improvement Team (DO-IT) following the approaches of the National Main Street Center. DO-IT worked with public officials, residents, civic organizations, and businesses to reclaim downtown. Funding for the restoration came through matching grants and community fundraisers, including the sale of bricks that commemorate the past and decorate the renovated Main Street.

The Main Street program helped transform the downtown and, with a new master plan,



will continue as an integral part of Milford's future. Half of the buildings downtown have undergone extensive façade improvements, and occupancy rates have increased to 97% with the addition of 15 new businesses.

*Award Winning Downtown
Milford, New Hampshire¹⁸*

Today, Milford's downtown is a desirable location for new businesses, existing businesses are thriving, historic buildings have been saved, and the town hall is once again the social and governmental center.

Evaluation of Milford's Project: Downtown revitalization is a key component of reducing sprawl and enabling a once-thriving center to again be self-sustaining and attract residents and shoppers to a central location. The design of façade improvements and building placement are people-friendly, with provisions being made for pedestrians. Living and/or working downtown allows people to use public transportation, bicycling and walking as alternatives to the automobile.

OPEN SPACE THROUGH CLUSTER HOUSING REGULATIONS

6. Town of Weare, New Hampshire: Cluster Housing Development

The Town of Weare is located about 16 miles west-northwest of the City of Manchester. Weare's population increased from 3,232 in 1980 to 7,776 in 2000, or about 140%. Weare was the fastest growing community within the SNHPC region in percentage

¹⁸ Photo Courtesy of Milford Pictures

increase. The town has recently completed the development of an Open Space Plan, which will help guide future open space preservation.

WEARE CASE STUDY: HOIT MILL SUBDIVISION

Date of Approval:	February, 1998
Dwelling Units:	18 Apartments; 18 Single Family Homes
Open Space Preserved:	51 Acres
Open Space Access:	Easily Accessible
Open Space Management:	Property Owners/Conservation Easement

Following is selected language from the Cluster Housing section of Weare's zoning ordinance (**emphasis added**):

CLUSTER HOUSING. Purpose and Intent: The purpose of cluster housing development, and to which purpose any such development must adhere, are the following:



To promote the conservation of the natural environment and the development of community uses in harmony with the natural features of the land.

Hoit Mill Subdivision in Weare, New Hampshire

To establish living areas within the town that provide for a balance of community need such as diversity of housing opportunities, adequate recreation and open space areas, easy accessibility to these and other community facilities, and pedestrian and vehicular safety.

...At least fifty percent (50%) of total tract area exclusive of public right-of-ways (sic) shall be set aside as open space uses covenanted to be maintained as permanent "open space" in private cooperative/non-profit ownership. Open space within a cluster development shall be protected by recreation and conservation easements and shall be maintained as permanent open space. Such common land shall be restricted to open space uses. ...Open space acreage shall be contiguous to the greatest extent possible.

Evaluation of Weare's Regulation: This regulation provides for adequate open space within the housing development. Additionally, housing affordability is achieved within this development, with new home prices ranging from \$150,000 to \$180,000.¹⁹

What's Next?

During the coming years, many other communities will begin to consider and use Smart Growth incentives and regulations. These efforts will be supported by the State of New Hampshire in an effort to reverse the trend of sprawl in this state. Southern New Hampshire has a number of beautiful growing towns that would like to maintain traditional settlement patterns, encourage development to grow within villages, foster a human scale of development, incorporate a mix of uses to allow for various land use activities, provide choices in transportation, and protect environmental quality.

Land uses and land values will certainly be changing here over the coming years. New technologies like the Segway will enable us to live and plan differently, perhaps cleaner than we have in the past. We have the ability to grow with common sense, instead of consuming land unnecessarily.

¹⁹ Town of Weare Land Use Coordinator, 2002.

IV. SMART GROWTH IDEAS ACROSS AMERICA

While a few of the following ideas and projects may not necessarily be allowed at this time in the state of New Hampshire, they are all *good* ideas to promote Smart Growth. And even though they may not currently be allowed, the future will certainly bring changes that may permit New Hampshire communities to take advantage of some of these great opportunities.

Banning cul-de-sacs which spill all their traffic onto one local connector or highway, clogging it twice as much as would interconnecting streets with two outlets. The city or town can help neighborhoods develop a grid street system, to give residents more than one way in and out.

Open Space Loans will help to make the open space, park land and other land purchases that are necessary to sustain the existing quality of life in a community. Land purchases are "time sensitive" and the open space they provide may be lost forever if the community decides not to purchase this land.

Town of Salisbury, North Carolina, Visual Corridor Overlay District, states that the first floors of all buildings shall be designed to encourage and complement pedestrian-style interest and activity. The first floor of all buildings designed and/or used for commercial or office uses fronting directly on a street shall include transparent windows and doors arranged so that the uses are visible from and/or accessible to the street on at least 50 percent of the length of the first floor building elevation along the first floor street frontage. Expanses of blank walls may not exceed 20 feet in length. (A "blank wall" is a facade that does not add to the character of the streetscape and does not contain transparent windows or doors, or sufficient ornamentation, decoration, or articulation.)

Town Growth Encourages People to Walk in Livingston County Michigan. The newly revamped comprehensive zoning ordinance in Howell, Michigan aims to curb sprawl and "encourage a return to the gracious, walkable communities of old," writes Karen Bouffard in The Detroit News. This time, the Howell Planning Commission spent more than a year to cut through the "hodgepodge of amendments" and work out a document that would preserve the city's historic heritage and encourage mixed-use and Planned Unit Development (PUD) projects. A city PUD project already under construction, Town Commons, features varied-style homes, from big Victorian to small cottages, along with sidewalks and period street lighting. Commission chairman Paul Streng says his group is seeking a balance: "We're still trying to protect residential areas, but it's nice to be able to walk down the street to get a loaf of bread or gallon of milk without having to get in the car to drive to the supermarket."

Open Space Preservation Bonds may be issued by the Garden State Preservation Trust Fund to help preserve North Jersey's remaining woodlands and green space. Ten towns will ask voters to approve slight property tax increases for land preservation in the future, including Demarest, Emerson, Midland Park, Oakland, Ridgewood, River Edge and Upper Saddle River in Bergen County and Pompton Lakes, Ringwood and Wanaque in

Passaic County. With less than \$2 a month residents "can do their share" to secure state grants and keep still undeveloped land green. The promise of state money has been a big boost to local fund-raising efforts since 1998.

Putting Conservation Ahead of Development in Waukesha County will result in spending \$672,000 for a 70-acre W. D. Owen Williams farm next to the 330-acre Retzer Nature Center and \$1.2 million for 100 acres of wetlands and wildlife habitat east of Spring Lake near Mukwonago. Developers reportedly offered up to \$1 million for the farm featuring 200-year-old oaks, but the family accepted less from the county in line with its late owner's wishes to keep the land intact.... Coming after the recent \$310,00 acquisition of the Fox River Inn site for conversion into a park, the purchases will lower the county's 1995 parkland acquisition fund to \$1.1 million, but county and municipal officials hail them as key investments for future quality of life. Concerned with "overbuilding," County Supervisor Pauline Jaske says, "Pretty soon there's going to be nothing but asphalt and houses."

Maine Preservation Bill Would Help Communities Preserve Smaller Woodlands. "I am alarmed by the amount of working forest land and open space that have given way to strip malls and cul-de-sacs," said Maine Republican Senator Susan Collins, announcing her proposed Suburban and Community Open Space Initiative Act, which would create a \$50 million Forest Service matching-grant program to help communities preserve woodlands, especially those used for logging or affected by urban sprawl. Speaking to the press at the Smiling Hill Farm in Westbrook, west of Portland, Senator Collins said she drew up the bill after learning that Southern Maine urbanization has grown 108 percent since 1980, that metro Portland is developing more acres per person than any other northeast city and that the lack of federal aid is hampering efforts to save woodlands from being sold for subdivisions. Maine Forest Service director Tom Doak noted that money from the federal Forest Legacy Program can be used to preserve only large tracts like those in northern Maine. The director of the Small Woodlot Owners Association of Maine, Everett Towle, added that area woodlands provide both jobs and recreation, and called the proposed bill "part of the solution" to preserve the state's way of living. *Portland Press Herald* writer Tom Bell notes that a broad coalition in support of the bill includes environmental and forest industry groups often split on other issues. Senator Collins plans to attach her legislation to a comprehensive farm bill awaiting congressional action in the next few months.

End Perspectives

The following is an excerpt from James Kunstler's *Home From Nowhere*:

"Human settlements are like living organisms. They must grow and they will change.

But we can decide on the nature of that growth, particularly on the quality and the character of it, and where it ought to go. We don't have to scatter the building blocks of our civic life all over the countryside, impoverishing our towns and ruining farmland. We can put the shopping and the offices and the movie theatres and the library all within walking distance of each other. And we can live within walking distance of all these things. We can build our schools close to where the

children live, and the school buildings don't have to look like fertilizer plants. We can insist that commercial buildings be more than one-story high, and allow people to live in decent apartments over the stores. We can build Main and Elm Street and still park our cars. It is within our power to create places that are worthy of our affection."

APPENDIX A

Summaries of Technical Bulletins, Handbooks, and Other Publications

The following are brief summaries of Technical Bulletins, Handbooks, and other publications from the NH Office of State Planning and other sources. To view or download these articles, please go to <http://www.state.nh.us/osp/publications/start.html>.

1. CLUSTER RESIDENTIAL DEVELOPMENT OSP, Summer 1989

Large lot zoning, established to preserve "rural character" or as a means to minimize population density, has absorbed land at an accelerated rate without the desired benefits, such as economy of layout, convenience of access to town roads, improved visual quality, or permanent preservation of rapidly diminishing open space.

The need to utilize more efficient methods of developing land is being increasingly recognized, with expectations of higher development quality, and more demanding responsibility placed on land use decision makers. Clustering of residential development where appropriate, provides an alternative to creatively preserve open space, accommodate growth and at the same time preserve the open rural appearance of a community. This process encourages the concentration or grouping of buildings on those areas of a site which are best suited for development, while requiring that the remaining land be retained as common open space, which at the same time maintains the natural character of the site.

Cluster development allows lots smaller than those specified within the zoning ordinance, provided that the land saved is devoted to permanent open space, and that the number of lots (density) remains essentially the same as in a conventional development. An increase in overall density when clustering may be appropriate in some municipalities, particularly in an urban setting where public sewer and water are present, but an increase in density is not required under this concept.

2. PRESERVATION OF SCENIC AREAS AND VIEWSHEDS OSP, Spring 1993

The natural landscape and visual quality of a community provide it with a sense of pride and individuality, setting it apart from other places. Special vistas, views and scenic areas contribute significantly to the quality of life, add to the value of property, and enhance the desirability and livability of a community. People respond positively to places that are visually appealing because an extremely high percent of human sensory experience is visual. When development occurs on or in the vicinity of a well recognized landmark or outstanding view it can have a dramatic effect upon whether people still consider that place special.

3. PRESERVING RURAL CHARACTER: THE AGRICULTURE CONNECTION OSP, Winter 2000

Preserving rural character is a top priority for virtually every small New Hampshire town. Larger communities put a similarly high priority on revitalizing their downtown. The whole state, including the legislature, is seeking ways to curb sprawl. All three of these important goals aim to preserve and enhance the quality of life in the Granite State—and all three are closely related.

Despite this strong desire to hold onto the rural character of their communities, many residents are frustrated and feel they are losing the battle. Part of the problem is that planning, zoning, and other local tax and government policies too often work against the stated master plan goals of preserving rural character and open space. Master plan committees, planning boards, zoning boards of adjustment, conservation commissions, and boards of selectmen or city councils may not see how some of their land use policies and regulations can lead to land use patterns that convert rural character into sprawl.

Where we site schools and public buildings, and the locations of roads, sewer, water, and other infrastructure, can all have unintended consequences. Implementing master plan goals to promote rural character, in the words of one seasoned planning board member, “is not a painless process.” Preserving rural character requires conserving open space and historic places. The planning, zoning, and tax policies required to achieve that goal may be controversial.

A growing number of New England communities are realizing that one way to preserve rural character and heritage is to take a stronger role in stabilizing and fostering active, productive family farms. Agriculture is an important element in open-space land use in New Hampshire. *This Technical Bulletin aims to help communities understand the connection between preserving rural character and a prosperous agricultural sector.*

4. HANDBOOK ON OPEN SPACE THROUGH RESIDENTIAL CLUSTERING SNHPC, 2001

Sprawl continues to be a major concern in nearly every community in the Northeast, sparking renewed interest in preserving open space and community character. For the community, the main goal of clustering homes is preserving open space. Recognizing that cluster subdivisions can indeed help to stem urban sprawl, communities that rescinded their cluster ordinances a few years ago are taking a new look at cluster development. The stigma associated with the word ‘cluster,’ and the need to send a clear message to property owners and developers about the intent and goals of clustering, call for new terminology. Changing the name in the ordinance from cluster subdivision to open space subdivision communicates these goals clearly to both the developer and the planning board.

5. MANAGING GROWTH IN NEW HAMPSHIRE: CHANGES AND CHALLENGES OSP, 1999.

The New Hampshire General Court (House Bill 207, Chapter 19, Laws of 1999) directed the Office of State Planning (OSP) to study how growth trends are affecting land

development patterns in New Hampshire. OSP formed a 27-member Growth Management Committee in August 1999 to help examine the effects of sprawl development in the state, and advise the Legislature on managing growth. The Committee included individuals with a wide range of expertise and experience, including law, architecture, natural resources, real estate development, retail operations, municipal planning, historic preservation, economic development, and transportation.

This study examined the nature of sprawl in New Hampshire, and looked for ways in which public policies and programs may be contributing to the growth of sprawl. This study looked for ways in which state and local government policies and actions induce sprawl. This report offers a series of recommendations to strengthen the ability of state and local governments and regional organizations to cope with the challenges of future growth. Detailed analysis of statewide growth indicators, municipal case studies, and a review of how other states are addressing similar concerns support the recommendations.

APPENDIX B

The following is an article by Randall Arendt titled "Open Space Zoning: What Is It and Why It Works," from the Planner's Web Planning Commissioner's Journal, July/August 1992.

Local officials in most rural and suburbanizing areas have a long-term choice about which many are not fully aware. That is whether to continue implementing "conventional zoning," or whether to refine their existing land-use regulations to ensure the preservation of open space through creative development design.

Conventional zoning is essentially a blueprint for development, and development alone. Of course, zoning normally separates incompatible uses, and it does establish certain standards (such as maximum densities and minimum setbacks), but it typically does little to protect open space or to conserve rural character. The reason many subdivisions consist of nothing more than houselots and streets is because zoning and subdivision design standards usually require developers to provide nothing more. While many ordinances contain detailed standards for pavement thickness and culvert diameters, very few set any noteworthy standards for the quantity, quality and configuration of open space to be preserved.

Conventional zoning assigns a development designation to every acre of land, generally residential, commercial, or industrial. The only lands which are normally not designated for development are wetlands and floodplains. Conventional zoning has been accurately described as "planned sprawl," because every square foot of each development parcel is converted to front yards, back yards, streets, sidewalks, or driveways. Period. Nothing is left over to become open space in this land-consumptive process.



Above photo is of conventional large lot zoning in Middletown, Rhode Island.²⁰



Above photo is of open space development in Lower Makefield Township, Pennsylvania, where over half of this 431 acre tract has been preserved as farmland (137 acres donated to a local farmland trust) or as woods and wetlands (100 acres). Houselots are about 1/2 acre in size. Buyer response has been very favorable, with sales outpacing similarly priced developments. The developer advertises the project as "a community that will be forever surrounded by acres of preserved farmland, open fields and woodlands."

A Better Solution

Local officials who are interested in ensuring that their communities will not ultimately become a seamless web of subdivisions, shopping centers and office or industrial parks now have a practical and effective alternative: compulsory open space zoning. This technique has been successfully implemented by a number of municipalities in New England and the Mid-Atlantic states, and by several counties in Virginia, Washington State and California.

In order to avoid disturbing the equity held by existing landowners, **open space zoning allows the same overall amount of development that is already permitted.** The key difference is that this technique requires new construction to be located on only a portion -- typically half -- of the parcel. The remaining open space is permanently protected under a conservation easement co-signed by a local conservation commission or land trust, and recorded in the registry of deeds.

As "open space zoning" is based upon the technique of "clustering," these two terms are used interchangeably throughout the rest of this article. It should also be noted that the cluster concept can be restricted to detached, single-family homes, each on its own down-sized houselot, in communities or in specific zoning districts where this is politically desirable. In other words, cluster housing is by no means limited to townhouses, apartments, or condominiums, as is typical in many PUDs (planned unit developments)

²⁰ Photos courtesy Randall Arendt

and PRDs (planned residential developments). In fact, the classic rural village settlement pattern is a superb example of single-family clustering, sometimes with a central green constituting the permanently preserved open space.

Cluster Design

The basic principle of cluster development is to group new homes onto part of the development parcel, so that the remainder can be preserved as unbuilt open space.

The degree to which this accomplishes a significant saving of land, while providing an attractive and comfortable living environment, depends largely on the quality of the zoning regulations and the expertise of the development designer (preferably someone experienced in landscape architecture).

Although the concept of clustering is fairly simple, this "new" form of development has raised concerns among some residents of rural or suburbanizing areas because it is quite different from the conventional, standardized subdivision pattern with which most of us are very familiar. Interestingly, the conventional suburban model, commonplace in many growing communities, is actually a pattern that is at odds with the otherwise traditional rural landscape. It looks "at home" only in our sprawling metropolitan post-war suburbs, where it has become the predominant building pattern.

The purpose of this article is to first briefly explain what I believe are the major advantages of requiring clustered (open space) development, and then to discuss several of the concerns typically expressed at local meetings where the open space planning concept has been discussed.

The Advantages of Open Space Development

The conventional approach to development results in the entire parcel being covered with houselots and subdivision streets. Communities which have had a lot of experience with this type of development ultimately realize that, as one parcel after another is eventually developed, their formerly open landscape evolves into a network of "wall-to-wall" subdivisions. [See Sidebar, "[Large Lot Zoning](#)" at the end of this article].

The beauty of open space zoning is that it is easy to administer, does not penalize the rural landowner, does not take development potential away from the developer, and is extremely effective in permanently protecting a substantial proportion of every development tract. It does not require large public expenditures (to purchase development rights), and allows farmers and others to extract their rightful equity without seeing their entire land holding bulldozed for complete coverage by houselots.

This pattern of down-sized houselots and preserved open space offers distinct economic advantages to all parties. Developers can reduce the costs of building roads and, if applicable, water and sewer lines. Local governments save on snowplowing and on periodic road re-surfacing. And home buyers often pay less because of these cost savings.

Landowners who view their property as their "pension" no longer have to destroy their woods and fields in order to retire with a guaranteed income, as their equity is not diminished. Local governments do not have to raise property taxes to finance expensive open space acquisitions, and are not faced with the administrative complexities posed by TDR (transfer of development rights) systems. Developers are not placed under unreasonable constraints, and realtors gain a special marketing tool, in that views from the new houses will be guaranteed by conservation easements protecting the open space from future development.

Why Require Cluster Design?

Perhaps the most controversial issue surrounding the cluster concept is the suggestion that this open space approach be made mandatory. The rationale is that there are certain types of irreplaceable natural resources which are extremely important to protect. Among these may be listed aquifers, riverfront land, fields and pastures. In addition, clustering allows flexibility in layout so that a developer can avoid impacting important wildlife habitat areas, such as deeryards, or scenic features of the rural landscape, such as large rock formations, hill crests, and mature tree-stands. It is a local decision whether to require the cluster approach when development is proposed on any or all of these resource lands.

There are several possible options to mandating open space. One is to require the cluster approach in only certain zoning districts, or when certain resources are present. Another alternative is to authorize the planning commission to require it only when the developer's conventional plan would destroy or remove more than a specified percentage of certain listed resources, leaving determination on a case-by-case basis. Whatever the choice, it is important- in my view-not to leave it to the developer to decide whether to opt for cluster development. [See Sidebars ["Requiring Open Space Design"](#) and ["West Manchester Township"](#) at the end of the article].

Questions About Cluster Development:

Will It Harmonize With Its Surroundings? A concern I often hear is that cluster housing will not blend in with a town's rural character. It is true that some cluster developments done in the past have failed to harmonize with their surroundings. Recognizing this potential problem, a few communities are now requiring that new cluster plans consist of only detached, single family homes, each set on its own, down-sized individual lot, roughly resembling a traditional village pattern. This also ensures that everyone will have their own separate yard space, in addition to the larger "open space" which the cluster approach creates.

The related issue of "impact upon surrounding property values" is also often raised. Along any part of the parcel perimeter where down-sized lots would adjoin standard-sized lots, communities can require buffer strips. Along other edges, this may not be desirable or logical, as lots which border permanently protected open space almost always enjoy higher property values. Indeed, **most realtors would attest to the fact that**

all lots within a well-designed cluster development usually gain enhanced value as a result of the protected open space. [See Sidebar, ["Enhancing Property Values"](#) at the end of this article].

"Open Space" Maintenance. Another issue is maintenance of the open space created by clustering. If this space is recreational (playing fields, jogging trails, tennis courts), upkeep is typically handled by a homeowners' association, to which everyone is contractually obligated to contribute when they purchase their home. Home buyers sign a legally enforceable agreement which enables the homeowners' association to collect any unpaid dues.

If the open space is agricultural, there are several options. The agricultural open space can be sold "in fee" to the homeowners' association, which can in turn lease it to local farmers. Alternatively, the original farmer can retain ownership of it and sell only his "development rights." I favor the latter option, even if the farmer is planning to retire, because he could still sell the field to a younger farmer in the neighborhood at an affordable price reflecting the land's agricultural value -- not its potential building-lot value -- thus strengthening the local farming economy.

Buffering Farm Operations. In order to reduce potential conflicts between new residents and agricultural practices, communities are beginning to require that cluster lots be separated from the protected farmland by a "buffer" strip, typically 75 to 100 feet wide. Where it is not possible to use existing woodlands for this purpose, officials can require new buffer areas to be thickly planted with a variety of rapidly growing native trees and shrubs. A similar requirement should also be placed on conventional subdivisions when they abut working fields, but this is rarely done.

Street Standards in Cluster Developments. When cluster developments are designed with privately maintained road systems, planning boards are often asked to reduce their normal street construction standards. This has sometimes created substandard conditions, and is a practice which communities would be well-advised to resist. If subdivision street construction standards are excessive -- as they often are -- they should be revised for all types of new development, so that street width bears a reasonable relationship to the expected volume of traffic. [Editor's Note: On this point, see Joseph Molinaro's article, "Rethinking Residential Streets," in Issue 1 of the PCJ].

Sewerage and Septic Systems. Because of the shorter road system needed to serve lots in a cluster development, substantial savings are possible with respect to the construction of roads, sewers, and water lines. Where sewer service is unavailable, however, people have expressed concerns about siting septic systems on the smaller cluster lots. Recognizing this factor, officials are requiring such houselots to be located on that part of the parcel where soils are most favorable for leaching fields. The flexibility of cluster design allows this to happen. On the other hand, in a conventional subdivision, septic systems are located wherever the soils manage to pass minimum health requirements, even on marginal soils whose long-term suitability is questionable. In addition, it should

be noted that septic systems can be located beyond one's lot lines, on an easement within the protected open space.

Summing Up:

Whether continuous coverage by large-lot subdivisions is more desirable than a mixture of village-sized cluster lots surrounded by permanently protected fields and woodland is a decision for residents and officials in each town. As long as everyone is clear about the ultimate consequences of the various development types which are available to them, these decisions can be made on an informed basis.

Sidebars:

Large Lot Zoning

One of the "solutions" that many conventional zoning ordinances use for presumably maintaining open space and rural character is large lot zoning -- that is establishing large, five to ten acre, minimum lot sizes in rural zoning districts. Although large lot zoning does reduce the number of homes that can be built, it also spreads out the homes in such a way that none of the remaining land is useable for farming, forestry, or even recreational trails. Houselots become "too large to mow, but too small to plow," and the greater distance between homes effectively stifles the emergence of any sense of neighborhood.

Open Space: What Size and Shape?

Unless local regulations require the open space to be at least a certain size with specific minimum dimensions, it can end up being a long narrow fringe abutting rear lot lines and the parcel's outer perimeter. This can be easily avoided by clarifying, in the ordinance, that lots and roads shall not cover more than, say, 50% of the parcel, and that at least half of this open space must be shaped so as to be useable for active recreation or agriculture, for example.

Requiring Open Space Design

Experience has shown that when clustering and open space preservation are left optional, only a small percentage of developers choose to take advantage of this approach. Most simply continue to do as they have always done: creating checkerboards of house lots and streets. This means that even though the clustering option is in the zoning ordinance, it remains essentially unused. The community is still left with conventional development patterns repeated over fields and woodlands.

If a community is reluctant to require clustering, it might consider the approach taken by Clallam County, Washington. The County recently revised its zoning from a density of one unit per five acres (which was creating non-functional "farmettes") to a minimum of thirty acres. However, the original one unit per five acres density remains available if the houselots are downsized so as not to consume more than fifteen to twenty percent of the parcel. Applying this kind of stiff "density penalty" to discourage land-consumptive farmettes may be a far more effective technique than offering meager density bonuses to encourage clustering.

West Manchester Township, Pennsylvania

West Manchester Township, in south-central Pennsylvania, last year amended its zoning ordinance to require open space development within an undeveloped portion of the township. The area had been zoned for single-family detached residential homes, on half acre or smaller lots. Before amending the ordinance, the township had prepared build-out maps showing what the area might look like if developed under the existing conventional zoning. These maps vividly showed the potential loss of the existing farmland and open space. The township also mapped out the open space it hoped to preserve to show landowners and developers exactly what was envisioned: interconnected open spaces crossing parcel lines.

Under the township's open space zoning provision, a developer first prepares a sketch plan showing the number of units that could be built under a conventional development pattern. This determines the allowable density that can be used when the project is designed in a clustered manner. According to Jan Dell, Assistant Township Administrator, allowing the same density was important to allay the concerns of affected landowners. At the same time, preserving views of open space would make developments more attractive to home buyers. One other note, West Manchester's open space zoning requirement only applies to developments involving more than fifteen acres.

"Build-Out" Maps

One of the most understandable, inexpensive and effective tools for showing local residents and officials the long-term result of implementing existing zoning and subdivision regulations is the "build-out" map. This map shows the probable location of new roads and houses which could legally be constructed on the vacant and buildable land remaining within the municipality (or a portion of the municipality). Because so many people assume their town is adequately protected by existing zoning, a build-out map, by graphically showing what might occur, can be a real "eye opener" for members of the community. To ensure accuracy, build-out maps must not project development into areas where natural or regulatory constraints would prevent it. The [Center for Rural Massachusetts](#) has available "A Manual of Build-Out Analysis," a step-by-step guide to the preparation of build-out maps.

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Mr. Randall Arendt's website address is www.greenerprospects.com. His other books include *Rural by Design*; *Conservation Design for Subdivisions*; *Growing Greener*; and *Crossroads, Hamlet, Village, Town*.

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